

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named

Inventor : Eikfun Khor et al.

Appln. No.: 10/685,150

Filed : October 14, 2003

For : USING A MECHANICAL STOP FOR
DETERMINING AN OPERATING
PARAMETER OF A DATA HANDLING
DEVICE

Docket No.: S104.12-0130/STL 11368

Group Art Unit: 2651

Examiner:
Andrew L. Snizek

**SUPPLEMENT TO AMENDMENT
FILED 09/5/2007**

**ELECTRONICALLY FILED ON
DECEMBER 6, 2007**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Notice dated November 13, 2007 indicating that the amendment filed September 5, 2007 was not fully responsive and lacked an analysis of the rejections based on Chainer et al., Takaishi et al. and Lee. Applicants addressed these rejections by referring to the Panel Decision and prior responses, but submit this supplement, which further elaborates on the references.

Applicants agree that a more detailed discussion will be helpful for the Examiner and the official record.

I. CLAIM REJECTIONS UNDER §102(e) BASED ON CHAINER et al.

Claims 1, 5, 8-12, 14, 16 and 23 were rejected under §102(e) as being anticipated by Chainer et al., U.S. Patent No. 6,603,627.

A. Chainer et al. Does Not Disclose A “Stationary Lateral Actuator Position”

The Office Action inaccurately suggests that in Chainer et al., “[t]he common actuator position is when the head is pushed against the crash stop,” and that “[a]lthough the head might be moved by small amounts during these operations [of Figures 3-5], the head remains against the crash stop.” (Office Action, Page 8). But if the actuator position is deliberately stepped between different positions, then those different positions cannot be considered a “common actuator position” or a “stationary lateral position”, as claim 1 is presently amended.

Chainer et al. state,

An initial set of servo pattern tracks is written by moving an actuator against a compliant structure (e.g., crash stop) with a first force applied thereto to hold the actuator in a first position to write a first track of the servo pattern. The force is changed, thereby reaching a second position of the actuator against the compliant structure, at which a second track of the servo pattern is written. The process is iterated for additional tracks. (Abstract) (Emphasis added).

Thus, the [compressible] crashstop can provide controllable movement of the head simply by varying the VCM current.” (Col. 3, line 66 to col. 4, line 1);

Then, a series of tracks are written (Step 320) with the VCM dac stepped by a certain amount between tracks.” (Col. 4, lines 8-11) (Emphasis added);

Thus, the Chainer et al. document itself expressly contradicts the Examiner’s interpretation. In the Chainer et al. procedure, the crashstop provides controlled movement of the head between different positions.

These positions cannot be considered “a common position” or a “stationary lateral position” within the context of claim 1 and in direct contradiction to the Chainer et al. patent.

B. Chainer et al. Do Not Define an Accessible Track Range.

Claim 1 includes:

“defining an accessible track range for the surface that includes fully accessible tracks on the surface and excludes the sensed plurality of partly accessible tracks.”

The Examiner cites column 5, lines 23-33 and asserts that Chainer et al. use pairs of adjacent tracks in the sensing arrangement therefor several tracks are sensed.

But Chainer et al. measure spacing between two adjacent tracks by measuring an “overlap” signal, “which is equal to the sum of the normalized readback amplitudes for a pair of tracks when the read element is positioned such that it overlaps both tracks by approximately equal amounts.” (Col. 4, lines 20-24).

The overlap signal is an amplitude, not a track range as in claim 1.

C. “Track Range” is Different Than “Track Spacing”

Chainer et al. discuss “track spacing”, not “track range”. In col. 4, lines 20-27, Chainer et al. discuss that the “spacing between tracks is checked by measuring the ‘overlap’ signal (Step 330) which is equal to the sum of the normalized readback amplitudes for a pair of tracks when the read element is positioned such that it overlaps both tracks by approximately equal amounts. This overlap signal decreases with increasing track spacing and therefore provides a measurement of relative track spacing . . .” (Emphasis added).

In claim 1, the phrase, “a track range for the surface” clearly refers to a range of tracks on the surface, not the spacing between a pair of adjacent tracks.

A person of ordinary skill in the art would understand that “track spacing” is much different than “track range.”

D. Claim 10

Independent claim 10, this claim includes the step of:

“urging an actuator against a stop while identifying each of several tracks at a common, stationary lateral actuator position using a head supported by the actuator.”

Again, in Chainer et al., the actuator is moved from one position to the next when writing the series of different tracks. During the overlap measurement, Chainer et al. measure the sum of the readback amplitudes for two adjacent tracks. The overlap signal is not an identification of each of several tracks.

Further, Chainer et al. do not disclose, “defining an accessible track range for the surface partly based on a laterally-most extreme track that is identified and fully accessible during step (a),” as also recited in claim 10.

E. **Claim 23**

Claim 23 is also not taught by Chainer et al. for similar reasons as claims 1 and 10. Further, claim 23 states,

sensing several lateral track identifiers while urging the actuator laterally against a stop at a fixed, common actuator position; and

determining an accessible track range for the surface partly based on the several lateral track identifiers.

In Chainer et al., the actuator positions are stepped, not fixed, and FIG. 5 of Chainer et al. is directed to measuring overlap, not lateral track identifiers.

Chainer et al. provide no teaching of sensing several lateral track identifiers while the actuator is at a fixed, common position.

II. CLAIM REJECTIONS UNDER §102(e) BASED ON TAKAISHI et al.

Claims 1-3, and 5-9 were rejected under §102(e) as being anticipated by Takaishi et al., U.S. Patent No. 6,819,519.

A. **Takaishi et al. Do Not Sense a Plurality of Partly Accessible Tracks on the Surface While Urging the Actuator Into a Stationary Lateral Position Against a Stop**

Takaishi et al. describe a process for measuring a starting position of each head. Takaishi state,

“In order to do that, the MCU 8 moves the actuator 5 to the outer side of the disk, and at the point where the actuator will not move any further, the MPU 8 detects the track address that is read by the head.” (Col. 5, lines 62-66).

“In order to position the entire track when eccentricity occurs, it is necessary to detect the track where the maximum value of eccentricity is at the position of the outer stopper.” (Col. 6, lines 4-7).

FIG. 7 is a flowchart of the measurement process for doing this, which is described in column 6, lines 10-31. First, the system seeks a track position “StartTarget” that does not come in contact with the stopper. Next, the system decreases the target position

SeekTarget by -1. The system then determines whether the head can move. For example, it determines whether the track number read by the head changes from seeking. This process repeats until the head cannot move any further. That target position is taken to be the maximum outer position for that sector position, and it is stored in a table.

Takaishi et al. do not urge the actuator against a stop at a stationary lateral position and sense a plurality of partly accessible tracks on the surface. Rather, Takaishi et al. incrementally move the head one target position at a time toward the stopper until the head can move no further. That target position is taken as the maximum outer position.

Takaishi et al. also do not define an accessible track range for a surface, where the track range includes fully accessible tracks on the surface and excludes the sensed plurality of partly accessible tracks.

III. CLAIM REJECTIONS UNDER §103

Claim 15 was rejected as being unpatentable over Chainer et al. in view of Takaishi et al., and claim 17 was rejected under §103(a) as being unpatentable over Chainer et al. in view of Lee, U.S. Patent No. 6,715,032.

Concerning claim 15, the proposed modification of Chainer et al. in view of Takaishi et al. is flawed since Chainer et al. emphasizes self-servowriting. (Col. 1, lines 8-15).

Claim 17 is discussed on page 8 of Applicant's prior response dated November 23, 2005 and on page 11 of Applicant's response dated June 21, 2006.

IV. THE AMENDMENT WAS BELIEVED TO BE FULLY RESPONSIVE

The amendment dated September 5, 2007 included a discussion of the Chainer et al., Takaishi et al. and Lee references and the reasons for which the presently amended claims were believed to be patentable over these references.

The prior amendment included the following statements:

Applicants also note that the present Office Action follows a decision from a Pre-Appeal conference that indicated all pending claims were allowable over the art of record at that time. This art included Chainer et al., Takaishi et al. and Lee. The present Office Action is based in part on a newly cited reference, Hasagawa et al., U.S. Patent No. 6,496,322.

Based on the arguments presented in Applicants' Request for a Pre-Appeal Review and the favorable decision from the conference, it is presumed that the presently pending claims are allowable over the previously-cited references and that the following claim rejections should be withdrawn: rejections under §102(e) based on Chainer et al.; rejections under §102(e) based on Takaishi et al.; rejections under §103(a) based on Chainer et al. in view of Takaishi et al.; and rejections under §103(a) based on Chainer et al. in view of Lee. Applicants' previous arguments are hereby incorporated herein. (Emphasis added).

Applicants acknowledge that the proposed Examiner's Amendment regarding a "stationary lateral position" (resulting in the favorable Panel decision) had not been entered. However, the Amendment dated September 5, 2007 did enter those amendments. As a result, the reasons for patentability over the previous rejections based on Chainer et al., Takaishi et al. and Lee that were presented in the Request for Pre-Appeal Review and that resulted in the favorable Pre-Appeal Panel Decision were valid.

If the Panel's Decision determined that the amended claims were patentable over Chainer et al., Takaishi et al. and Lee, and that the prior rejections should be withdrawn, then reference to the Panel Decision and to Applicants' arguments presented in the Request for Pre-Appeal Review was believed to be sufficient to overcome the prior rejections. In addition, Applicants incorporated these arguments by reference.

Therefore, the Amendment was believed to be fully responsive. In any case, Applicants provide the above discussion.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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